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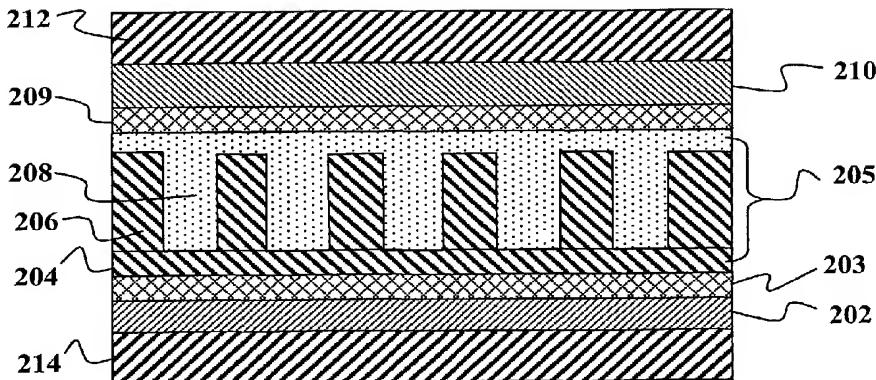
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(54) Title: PHOTOVOLTAIC DEVICES FABRICATED BY GROWTH FROM POROUS TEMPLATE

**200**



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(57) Abstract: Charge-splitting networks, optoelectronic devices, methods for making optoelectronic devices, power generation systems utilizing such devices and method for making charge-splitting networks are disclosed. An optoelectronic device (200) may include a porous nano-architected (e.g., surfactant-templated) film (206) having interconnected pores that are accessible from both underlying and overlying layers. A pore-filling material (208) substantially fills the pores. The interconnected pores have diameters of about 1-100 nm and are distributed in a substantially uniform fashion with neighboring pores separated by a distance of about 1-100 nm. The nano-architected porous film and the pore-filling material have complementary charge-transfer properties with respect to each other, i.e., one is an electron-acceptor and the other is a hole-acceptor. The nano-architected porous film may be formed on a substrate by a surfactant templation technique such as evaporation-induced self-assembly.



SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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## B. FIELDS SEARCHED

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Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1087446 A2 (DEN et al) 28 March 2001 (28.03.2001), Figures 4A, 4B, and 9A; and paragraphs 0031 and 0049.	1-15, 40, 41
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A		16-39
X	EP 1028475 A1 (LUPO et al) 16 August 2000 (16.08.2000), Figure 1; page 2, lines 46-58; and page 3, lines 49-55.	1-15, 40, 41
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A		16-39
X,P	US 2002/0192441 A1 (KALKAN et al) 19 December 2002 (19.12.2002), Figure 1; and paragraphs 0023 to 0040.	1-15, 40, 41
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A,P		16-39
A	US 6,471,761 B2 (FAN et al) 29 October 2002 (29.10.2002).	1-41
A	DE 2741954 A1 (HERTEL) 29 March 1979 (29.03.1979).	1-41

Further documents are listed in the continuation of Box C.

See patent family annex.

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